



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/022,779	02/12/98	HENRY R	AUD-2-016

IM11/0303  
TIMOTHY E NAUMAN  
FAY SHARPE BEALL FAGAN MINNICH & MCKEE  
1100 SUPERIOR AVENUE  
SUITE 700  
CLEVELAND OH 44114-2518

EXAMINER
CROSS, L

ART UNIT	PAPER NUMBER
1721	3

DATE MAILED: 03/03/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
09/022,779

Applicant(s)  
Henry, Richard

Examiner  
Cross, LaToya I.

Group Art Unit  
1721



☒ Responsive to communication(s) filed on Feb 12, 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-26 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-26 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1721

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-26 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for solvents which are non-volatile organic solvents and solvent/resin blends (VOC free), does not reasonably provide enablement for solvents and solvent/resin blends wherein the solvent is volatile. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

Claim 1-26 are directed to solvent/resin blends consisting essentially of a resin and solvent(s) which are zero-VOC solvents (non-volatile). The list of solvents which Applicant denotes as non-volatile contains compounds which are art known volatile compounds, and compounds which Applicant admits are "not suitable as VOC-free solvents." For example, at page 3, lines 13-16, Applicant states that halogenated hydrocarbons are not suitable VOC-free solvents. However, claims 1-26 specify several halogenated hydrocarbons as being zero-VOC solvents (i.e. chlorobromopropane, 1-bromopropane, etc.)

Art Unit: 1721

Also, Hawley's Condensed Chemical Dictionary describes volatile properties of several of the solvents named by Applicant, including methyl acetate and acetone. With these inconsistencies, the scope of the claimed invention is unclear.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to the above mentioned claims, Applicant claims a solvent-resin composition having generally zero volatile organic compounds. By using the term "generally", it is unclear as to whether the composition contains absolutely no volatile organic compounds or whether the composition may contain compounds such as low volatile compounds that may not substantially increase the volatility of the composition.

5. Claims 5 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1721

Present office practice suggests that Markush claims contain the following phrase, or an alternative form thereof, preceding the Markush grouping: "selected from the group consisting of A, B, and C. When Markush claims are not in this form, the particulars of the claim tend to be unclear, and thus indefinite.

6. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 is directed to a solvent/resin composition consisting essentially of a resin and solvent(s), wherein the resin component includes methyl acetate. It is unclear what Applicant intends by the phrase "includes methyl acetate". Does Applicant intend that methyl acetate is a constituent of the resin? Does Applicant intend that the composition consists of a resin, methyl acetate, and an additional solvent?

7. Claims 11-15 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The above-mentioned dependent claims are directed to a composition that "further consists essentially of" components which are already features of their respective independent claims. When Applicant states that the composition further consists essentially of other

Art Unit: 1721

components, then it is implied that the composition consists essentially of the components of that particular claim, in addition to the components of the previously mentioned claim. For example, claim 11 as printed states that the composition consists essentially of a resin component, a solvent component selected from those cited in claim 1, as well as 1-bromopropane and another resin selected from those cited in the claim. Therefore, the composition would contain at least two resins and two solvents. Is this indeed Applicant's intent or does Applicant intend that the composition consists of a particular resin(s) and a particular solvent(s). If the latter is intended, it is suggested that Applicant amend the claims to state "wherein the resin component is..." and/or "wherein the solvent component is...".

### *Claim Rejections - 35 USC § 102*

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 25 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 3,773,676 to Boyles, herein referred to as Boyles, '676.

Applicant claims a cleaning composition consisting essentially of one or more zero volatile organic compound solvents.

Art Unit: 1721

Boyles '676 teaches a solvent composition for use as a cleaner comprising 55-80% by volume non-flammable halogenated hydrocarbons. The solvent mixture of example 1 of the reference uses perchlorethylene, mineral spirits and methylene chloride, which are all instantly claimed.

Therefore, for the reasons set forth above, Applicant's claimed invention is deemed to be anticipated within the meaning of 35 U.S.C. 103 in view of the teachings of Boyles '676.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-5, 7, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,443,762 to Rowe, herein referred to as Rowe '762.

With respect to claims 1-5, and 7, Applicant claims a solvent resin composition consisting essentially of a resin component and a solvent component wherein the solvent component is present in an amount of 5-95% by volume of the solvent-resin composition.

Art Unit: 1721

With respect to claims 25 and 26, Applicant claims a cleaning composition consisting essentially of one or more zero volatile organic compound solvents.

Rowe '762 discloses non-volatile solvent mixture for use in the formation of coatings of organic polymers and for cleaning. The reference discloses the combination of the solvent mixture with polymeric substances such as resins (polybutene, epoxy, phenolic, styrene, rosin, etc.) (See example 2). Rowe '762 acknowledges the problems of previously used solvents, such as 1,1,1-trichloroethane, in that they are ozone depleters and are environmentally unsafe. The non-volatile solvents disclosed by Rowe '762 that are environmentally safe include benzotrifluorides, such as parachlorobenzotrifluoride, and perchloroethylene, as instantly claimed. Rowe '762 also discloses the mixture of benzotrifluoride solvents with other solvents, such as perchloroethylene, and parachlorobenzotrifluoride (col.1, lines 67-68 and col. 2, lines 1-6).

Rowe differs from the instantly claimed invention in that Rowe '762 also discloses the use of monochlorotoluene isomers in the mixture of solvents, which Applicants states as being a volatile solvent in the instant specification.

Recognizing toluene as a volatile solvent, and realizing that its presence may make the composition hazardous, it would have obvious to one of ordinary skill in the art to modify the Rowe '762 reference by removing the toluene solvent from the composition. One of ordinary skill in the art would expect that this modification would produce a non-volatile and



Art Unit: 1721

nonflammable composition consisting essentially of a resin component and a solvent component, which is suitable for the formation of coatings and in cleaning.

Therefore, for the reasons set forth above, Applicants claimed invention is deemed to be obvious, within the meaning of 35 U.S.C. 103 in view of the teachings of Rowe '762.

12. Claims 1-5, 7, 8, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 3,950,185 to Toyama et al, in view of U.S. Patent 3,773,676 to Boyles, herein referred to as Toyama et al, '185 and Boyles '676, respectively.

Applicant claims a solvent-resin composition consisting essentially of a resin component and a solvent component, wherein the solvent component is present in an amount of 5-95% by volume of the solvent-resin composition.

Toyama et al, '185 discloses a film removing composition for the cleaning of a wide variety of paint films. The composition consists essentially of at least one halogenated hydrocarbon solvent and a pressure sensitive adhesive component. The disclosed halogenated hydrocarbons include methylene chloride, and bromochloromethane such as instantly claimed (col. 2, lines 5-19). The pressure sensitive adhesive components include synthetic resins, such as acrylic resins and copolymers of acrylic resins with vinyl acetate, polyvinyl ether, etc. (col. 2, lines 57-68). The solvent component is present in an amount of about 80% of the total composition.

Art Unit: 1721

Toyama et al, '185 differs from the instantly claimed invention in that some of the solvents disclosed by the reference (i.e. chloroform, carbon tetrachloride, ethylene dichloride) are not cited in Applicant's claims which list non-volatile solvents.

Boyles '676 discloses a solvent mixture for cleaning ink from printing equipment. Boyles '676 uses solvents that are safe and non-hazardous and non-volatile such as perchloroethylene, mineral spirits, and methylene chloride. Boyles '676 uses the solvents that Applicant claims.

Understanding the governmental regulations regarding the use of volatile organic compounds, it would have been obvious to one of ordinary skill in the art to modify the Toyama et al, '185 reference by using solvent mixtures that are environmentally safe and non-volatile, such as those disclosed by Boyles '676. One of ordinary skill in the art would also expect that such a modification would yield a non-volatile solvent-resin composition, similar to that claimed by Applicant, suitable for cleaning.

13. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,624,970 to Dwyer et al, in view of U.S. Patent 4,898,893 to Ashida, herein referred to as Dwyer et al, '970 and Ashida '893.

Applicant claims a composition comprising polyether triol, an isocyanate compound, a catalyst, a surfactant, water, and a solvent selected from 1-bromopropane, chlorobromomethane, or 1,2-dichloro-1,1,1-trifluoroethane.

Art Unit: 1721

Dwyer et al, '970 discloses a foaming system for rigid urethane and isocyanurate foams based on polyether and aromatic polyester polyols. The system comprises 2-30% by weight blowing agents, 20-80% by weight a rigid urethane polyol, 0.2-0.5% by weight an amine and/or tin catalyst, 1.5% by weight surfactant, an isocyanate compound, and optionally a fire retardant additive (col. 1, lines 25-33). The blowing agent is a blend of trichlorofluoromethane and dichlorotrifluoromethane (col. 2, lines 49-53). The isocyanate compound is pure or crude toluene diisocyanate (col. 1, lines 31-33).

Dwyer et al, '970 differs from the instantly claimed invention in that dichlorotrifluoromethane is used as part of a blend in the blowing agent.

Ashida '893 teaches recognizes the environmental problems that occur when using chlorofluorocarbons such as CFC-11 (trichlorofluoromethane) as blowing agents in isocyanate-based foams. Ashida '893 suggests the alternative use of blowing agents such as HCFC-123 (dichlorotrifluoroethane) (col. 1, lines 29-33).

Realizing that trichlorofluoromethane is environmentally hazardous, it would have been obvious to one of ordinary skill in the art to modify the Dwyer et al, 970 reference by using only dichlorotrifluoromethane as the blowing agent, and not a blend of blowing agents. One would expect that the modified composition would be similar to that claimed by Applicant, and would be a suitable blowing agent for the manufacture of resin foams.

Art Unit: 1721

Therefore, for the reasons set forth above, Applicant's claimed invention is deemed to be obvious, within the meaning of 35 U.S.C. 103 in view of the teachings of Dwyer et al, '970 and in view of Ashida '893.

Art Unit: 1721

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya I. Cross whose telephone number is (703) 305-7360. The examiner can normally be reached on Monday through Friday from 8:00 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharon Gibson, can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-5408.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

LIC  
February 22, 1999

CYNTHIA HARRIS KELLY  
PRIMARY EXAMINER  
GROUP 1200 1721

